

## CLAIMS

1. A security document comprising a sheet-like substrate having one or more layers containing particles for forming an authentication device in a first location on a security document, the particles having at least a first dimension in the range of 1 to 200 nanometers.
2. A security document according to claim 1, wherein the particles are substantially spherical.
3. A security document according to claim 1, wherein the particles are elongated.
4. A security document according to claim 3, wherein at least a first group of the particles are aligned so that their longitudinal axes are substantially parallel.
5. A security document according to claim 4, wherein the longitudinal axis of the first group of particles extend in a first direction at an angle to the plane of the security document.
6. A security document according to claim 5, wherein a second group of particles are aligned so that their longitudinal axes extend in a second direction at an angle to the plane of the security document, the first and second directions being noncolinear.
7. A security document according to any one of claims 4 to 6, wherein the first group of particles are arranged so as to polarise incident light waves.
8. A security document according to claim 7, and further comprising, at a second location, a polarising analyser for interaction with the light polariser at the first location.
9. A security document according to claim 1, wherein the particles are spherical and form a series of particles concatenated together.